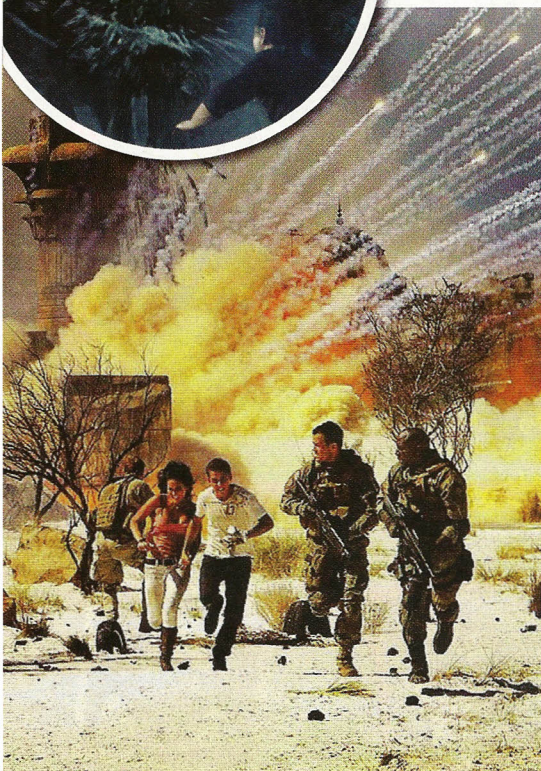


TRANSFORMERS SFX SECRETS



One of the biggest films of the year was Michael Bay's *Transformers: Revenge of the Fallen* – with a budget estimated at \$200M (US), it took in around \$832M (US) but the true stars of the blockbuster never got to enjoy the profits – the Transformers themselves.

Unlike the first Transformers film, which had a mere 13 robots to play with, *Transformers: Revenge of the Fallen* introduced 46 new robots to the screen, which stretched the production team and animators as Bay was determined to improve the overall quality of his animated “stars.”

At the peak of the production phase, there were over 200 dedicated artists at Industrial Light and Magic (ILM) behind the likes of Optimus Prime, Megatron, Sideswipe, the Fallen and Mudflap. According to Scott Benza, the animation supervisor on both *Transformers I* and *II*, at one point *Transformers II* was “the biggest production at ILM and we were taking up 83 percent of the computing power for one movie, which is

pretty rare.” Each one of the shots in the film had hundreds of different layers, not just for the characters themselves but with whatever they’re interacting with in every shot. It shouldn’t come as any surprise then that, according to Benza, ILM are possibly second only to NASA with the number of computer processors at their disposal.

New developments at the cutting edge company allowed the team to create their most complex digital effects – more than any other movie. “We are always looking for opportunities to push the existing technology we have,” said Benza. “We can’t do that unless directors like Michael Bay come to us with ideas that push the limits of what we’ve seen before.”

One example of innovative technology was evident in *Transformers: Revenge of the Fallen* during the scene where Devastator climbs up the great Pyramids of Egypt, only to destroy them with ‘devastating’ force. Benza explains: “It’s something we’ve not seen before and we didn’t have the capability

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or the technology to do this kind of scene when we started."

Previously, at ILM, the largest rigid dynamic simulation scene that had been created at ILM was on the most recent Indiana Jones movie, filmed just prior to *Transformers II*. The scene involved 15,000 rigid bodies – individual objects that are simulated using natural phenomena such as gravity, wind or external forces that are created in a computer. However, the scene in *Transformers* involved several 100,000 rigid forces. "It was kind of a big deal," added Benza.

The advancement was down to one of the designers at ILM, Chris Horvath, who created a new software that allowed the team to use computer graphic engines on graphic cards – rather than traditional

software computations. The results? The team at ILM found it much faster to achieve realistic effects, which will no doubt effect every single film coming out of ILM over the next few months.

Benza attributes much of the success in developing the CGI effects down to Michael Bay himself. According to Benza, "He [Bay] is a very collaborative director. It's pretty rare for a director to be so open with ideas coming at him, from all... and all the comments he made improved the shots. You can't ask for more than that as artist than a person in charge who makes our work look better."

- By Noam Friedlander

***Transformers: Revenge of the Fallen* is out on DVD and Blu-ray on November 5**

EVOLUTION OF A CGI SCENE

